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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,903	04/04/2001	Jason Alexander Trachewsky	42139/RJP/E264	3689
23363	7590	09/28/2004	EXAMINER	
CHRISTIE, PARKER & HALE, LLP			DEPPE, BETSY LEE	
PO BOX 7068			ART UNIT	PAPER NUMBER
PASADENA, CA 91109-7068			2637	

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/825,903

Applicant(s)

TRACHEWSKY ET AL.

Examiner

Betsy L. Deppe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/10/02.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the delaying, multiplying, and comparing steps in claim 1, lines 14-21 and claim 9, lines 23-34; and the multiplying and comparing steps in claim 1, lines 26-31 and claim 9, lines 39-48 must be shown or the feature(s) canceled from the claim(s). Furthermore, the figures do not show the plurality of log operands being provided and added, as recited in claim 8, line 3-4 and claim 9, lines 28-31. No new matter should be entered.

The recited steps in the respective claims are inconsistent with Figure 59 and the corresponding detailed description. For example, with regard to the steps in claim 1, lines 14-21, the recited low-pass filtered correlation signal (i.e.  $z_j$  in Figure 59) is not delayed and the delayed signal is not multiplied by a predetermined threshold. Although Figure 59 shows the performance of a logarithm function on  $z_j$ , this function differs from the recited limitation of multiplying a signal "by a first predetermined threshold". The "first predetermined threshold" recited in the claim appears to correspond to  $thd\_d\_1$  in Figure 59 and Figure 59 does not show a multiplication of this threshold with a delayed low-passed filter correlation signal.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it exceeds 150 words and “mulitplied” on line 24 should be “multiplied”. Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities:

- a. on page 86, line 22, “accordnace” should be “accordance”;
- b. on page 89, line 2, “in Figure 57” should be inserted after “low-delay detector” for clarification;
- c. on page 91, line 18, “needeed” should be “needed”;
- d. on page 91, line 29, “zhj” should be “zhj”;
- e. on page 92, line 10, “zhj” should be “zhj”; and
- f. on page 92, line 13, “zhj” should be “zhj”.

Appropriate correction is required.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

6. The claims are objected to because of the following informalities:

in claim 1, lines 12-13, “signallow-pass filtered” should be deleted;

- in claim 1, line 30, "mulitplied" should be "multiplied";
  - in claim 7, lines 3-4, "times, every 4-symbol sub-sequence of which being" should be "times with every 4-symbol sub-sequence having a" for clarification;
  - in claim 8, line 1, "the steps" should be "each step";
  - in claim 9, lines 17-18, "times, every 4-symbol sub-sequence of which being" should be "times with every 4-symbol sub-sequence having a" for clarification;
  - in claim 9, lines 21-22, "signallow-pass filtered" should be deleted;
  - in claim 9, line 47, "mulitplied" should be "multiplied".
- Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:
  - g. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
8. The following is a quotation of the second paragraph of 35 U.S.C. 112:
  - h. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
9. Claims 2, 8 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

10. With regard to claim 2, the detailed description does not describe a low pass filter using filter coefficients matched to the preamble sequence as recited on lines 1-3. The detailed description discloses using a matched filter or correlator which differs from a low pass filter.

11. With regard to claims 2 and 9, the detailed description does not describe a circuit wherein the filter averages a squared magnitude (see claim 2, line 4 and claim 9, line 12, respectively) to determine a correlation sequence and then computes a squared-magnitude of the correlation sequence and low-pass filters the computed squared-magnitude (see claim 1, line 10 and claim 9, line 18, respectively). According to Figure 59 and the corresponding detailed description, the averaging or low-pass filtering of the squared magnitude is performed only once by reference numbers 3018, 3020 and 3022. Since the two recited limitations are covering the same subject matter, the Examiner suggests deleting "and averaging a squared-magnitude of the filtered received signal" in claims 2 and 9.

12. With regard to claims 8 and 9, the detailed description does not describe the computing step recited in claim 8, lines 2-4 and claim 9, lines 26-31 40-45. Although the disclosure describes using a logarithmic function, it does not describe applying it to "each . . . operand" and then adding the plurality of log operands as recited in the respective claims.

13. With regard to claim 9, the detailed description does not describe a low pass linear matched filter as recited on line 9. The detailed description discloses using a matched filter or correlator which differs from a low pass filter.

14. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

15. With regard to claims 1 and 9, it is unclear how “comparing detected energy . . . to provide a threshold compared energy signal” in claim 1, lines 24-25 and claim 9, lines 37-38 relates to the detecting step recited in claim 1, lines 22-24 and claim 9, lines 35-37, respectively.

16. Claims 1 and 9 recite the limitations “the threshold compared low-pass filtered correlation signal” and “the threshold compared multiplied energy signal” in claim 1, lines 29 and 30, respectively, and in claim 9, lines 46 and 47, respectively. There is insufficient antecedent basis for these limitations in the respective claims. It is unclear what signals are used to provide a “correlation peak indicator.”

17. With regard to claim 2 and claim 9, lines 7-12, it is unclear what results from the filtering step. Does the filtering step provide a “correlation sequence” (see claim 1, line 9 and claim 9, line 9) and/or a “filtered received signal” (see claim 2, lines 3-4 and claim 9, lines 11-12)?

### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references disclose synchronization/timing circuits that use correlators: Usui et al. (US Patent No. 6,411,664 B1), Asokan et al. (US Patent



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No. 6,456,646 B1), Kubo et al. (US Patent No. 6,563,886 B1), Kubo et al. (US Patent No. 6,754,256 B1) and Poulbere et al. (US Patent No. 6,785,350 B1).

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-3054. The examiner can normally be reached on Monday, Wednesday and Thursday (8:30-4:00). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 272-2988.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450


**or faxed to:**

(703) 872-9306

Hand-delivered responses should be delivered to:

220 South 20<sup>th</sup> Street  
Crystal Plaza Two, Lobby, Room 1B03  
Arlington, VA 22202

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Betsy L. Deppe  
Primary Examiner  
Art Unit 2637